

# Hyperspectral Imaging for Pharma Applications

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# Norsk Elektro Optikk AS

**About Norsk Elektro Optikk (NEO):** with over 35 years since its establishment, NEO is the largest private R&D company in the field of electro-optics in Norway. Together with its subsidiaries in Norway and Sweden, NEOs activities focus on the development of state-of-the-art products for the international market. HySpex is the Hyperspectral Imaging Division of NEO.



**HySpex** is a research-based manufacturer of hyperspectral cameras with over 15 years of experience providing solutions for scientific and industrial applications. HySpex sensors are recognized for their scientific-grade accuracy and are used worldwide in the most demanding applications in the VNIR-SWIR spectral range.

*HySpex Classic - Scientific*



*HySpex Mjolnir - UAV*



*HySpex Baldur - Industrial*



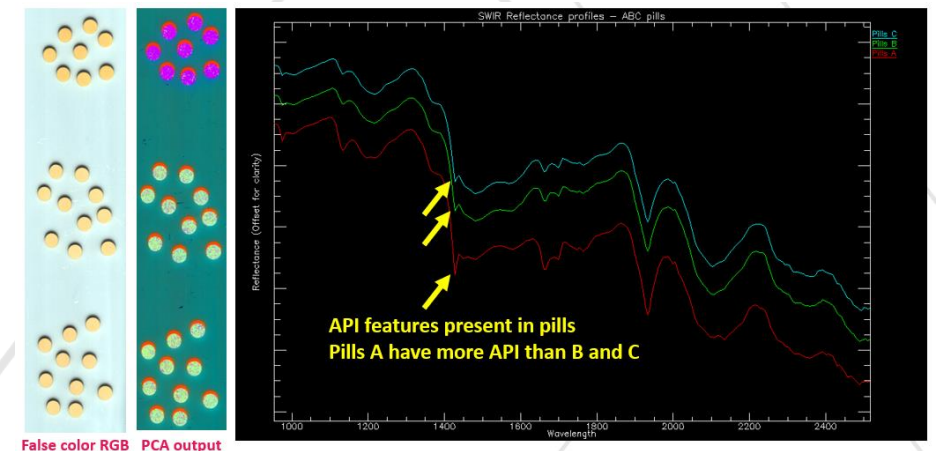
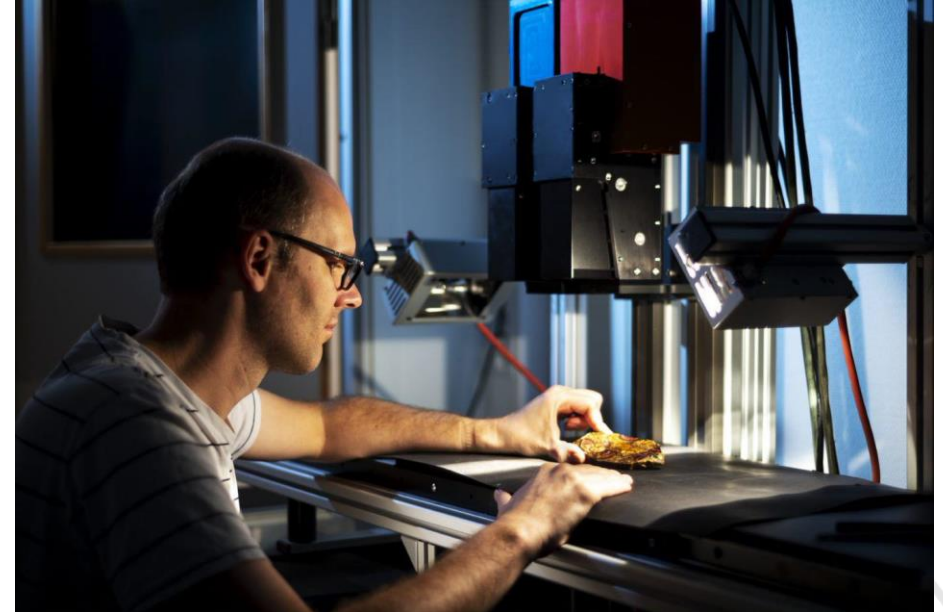
# How can we contribute to improve pharma processes?

## Hyperspectral imaging

- **Main advantage:** identifies spectral properties distributed on an area with high spatial resolution in real time.
- **Classification:** pharmaceutical components vs foreign objects and/or contaminants.
- **Identification:** specific API or mixture components; distribution on samples.
- **Quantification:** actual API content and concentration on samples.

## HySpex

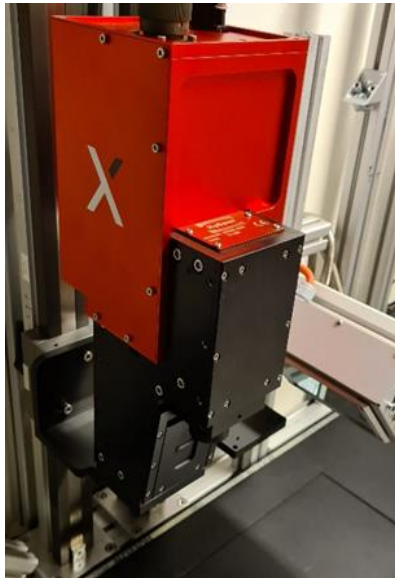
- **Flexible instrumentation:** multiplatform deployment.
- **Feasibility studies:** is HSI suitable for your process?
- **Turn-key solutions:** custom development.



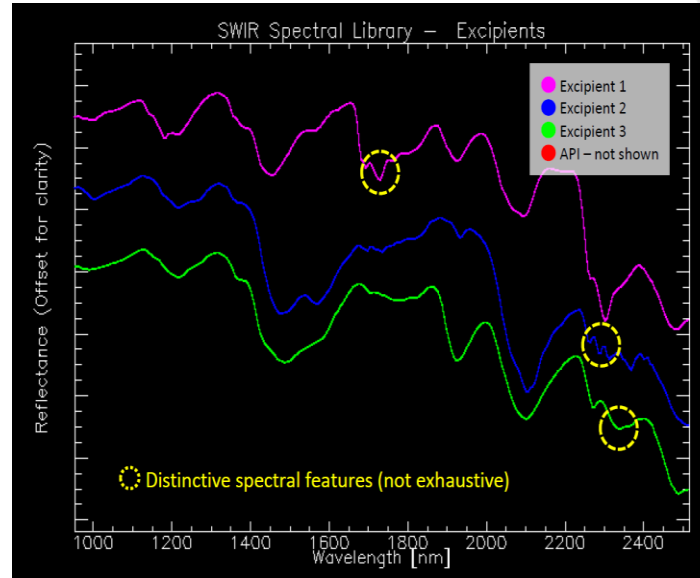
# Example: API identification and distribution in mixes



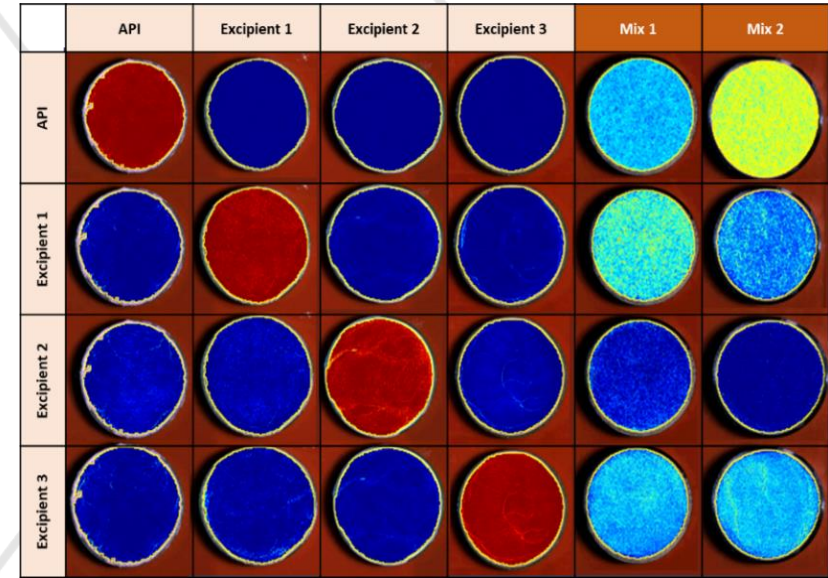
Sample preparation



Imaging



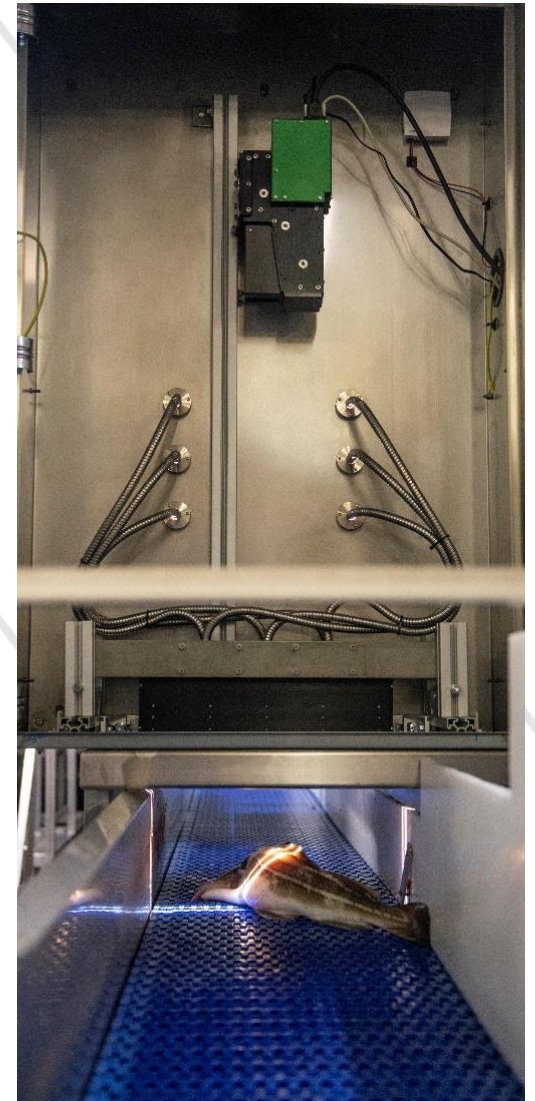
Spectral library or sample characterization



PLS modeling

# Our technology

- The **HySpex** hyperspectral cameras are characterized by high spatial resolution, high spectral fidelity and low optical aberrations.
- High spectral resolution cameras in the **VNIR-SWIR** spectral regions (400-2500 nm) with down to **micrometer spatial resolution**.
- Our developments for high-end, **scientific applications** has allowed an efficient technology transfer to **industrial systems** with high repeatability and accuracy.
- High speed sensors and SDK allow for a smooth **real-time implementation** on a variety of research and industrial environments.
- Robust optomechanical design allows for **repeatability** and **scalability** on a wide range of applications



Thank you!



Questions and Contact  
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